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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/213,748	12/17/1998	EDWARD G. CALLWAY	0100.01319	6443

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EXAMINER

HARRISON, CHANTE E

ART UNIT PAPER NUMBER

2672

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/213,748

Applicant(s)

CALLWAY ET AL.

Examiner

Chante Harrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 2-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 2-30 and 38 is/are rejected.
- 7) ☐ Claim(s) 31-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to communications: Amendment C, filed on 9/25/02.
2. Claims 2-38 are pending in the case. Claims 4, 20, 30, 31 and 38 are independent claims. Claim 38 has been added.

Election/Restrictions

The restriction requirement of the previous office action has been withdrawn. Claims 1-38 have been considered on the merits. The art rejection applicable to the above claims follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto, U.S. Patent 5,912,710, 6/1999, 348/445.

As per independent claim 4, Fujimoto discloses a video scaler to receive and scale video based on a ratio between the input format and the output format (FIG. 1 "107"), a graphics scaler to receive and scale graphics based on a ratio between the

input format and the output format (FIG. 1 "106"), combining the video and graphics to produce video graphics output (FIG. 1 "108"; FIG. 6; FIG. 8 "203"), a first memory (FIG. 1 "100g") having graphics data and a second memory (FIG. 1 "100b") having video data and the two memories coupled to their corresponding scalers (FIG. 1). It would have been obvious to one of skill in the art to use the disclosure of Fujimoto because he teaches storing the separate video and graphics data together on media accessible by main memory, which individually retrieves both graphics and video data and forwards the individual data through respective processing channels to be scaled (FIG. 1; col. 11, ll. 15 et seq.).

As per dependent claim 3, Fujimoto discloses the merging block receiving control data used to produce the video graphics output (FIG. 8 "201 & 203").

As per dependent claim 5, Fujimoto fails to disclose the first and second memory blocks included in a frame buffer of a video graphics integrated circuit. However it would have been obvious to use his disclosure because he teaches providing the data together on media accessible by the scaling and merging process (FIGS. 1 & 9).

As per dependent claim 6, Fujimoto discloses a video controller coupled to the video scaler (FIG. 1), a graphics controller coupled to the graphics scaler (FIG. 1) and the video and data controller are synchronized (FIG. 1; col. 10-11, ll. 60 et seq.).

As per dependent claim 7, Fujimoto discloses an alpha blend operation (FIG. 1 "108").

As per dependent claim 8, Fujimoto discloses a digital to analog converter for the video graphics (col. 10, ll. 35 et seq.).

As per dependent claim 9, Fujimoto discloses a display driver (FIG. 18 "18c") formatting the output (col. 6, ll. 40 et seq.; col. 10, ll. 10-25, 60 et seq.).

As per dependent claim 10, Fujimoto discloses a driver coupled to a video scaler (FIG. 18 "18c").

As per dependent claim 11, Fujimoto discloses a driver coupled to a graphics scaler (FIG. 18 "18c").

As per dependent claim 12, Fujimoto discloses a graphics flicker removal block (FIG. 16 "203"; col. 14, ll. 56 et seq.). It would have been obvious to one of skill to use the teachings of Fujimoto because he teaches a filter having a delay circuit (col. 16, ll. 56 et seq.) and selectable characteristics (col. 16, ll. 19 et seq.) and processing multiple scan lines, which implies an averaging technique (FIG. 11) that is known to reduce flicker.

As per dependent claim 13, Fujimoto discloses a video flicker removal block.
The rejection as applied to claim 12 is included herein.

As per dependent claim 14, Fujimoto discloses a plurality of graphics scalers
(Fig. 19).

As per dependent claim 15, Fujimoto discloses the merging block configuring a
pixel rate of the video output stream to produce a preferred video scaling ratio (col. 2, ll.
46-64; col. 3, ll. 18-35).

As per dependent claim 16, Fujimoto discloses the merging block configuring a
pixel rate of the video output stream to produce a preferred graphics scaling ratio (col.
2, ll. 46-64; col. 3, ll. 18-35).

As per dependent claim 17, Fujimoto discloses a video decompression block
(FIG. 1 "102").

As per dependent claim 18, Fujimoto discloses a graphics decompression block
(FIGS. 1 & 17; col. 15, ll. 10 et seq.).

As per dependent claim 19, Fujimoto discloses the video stream is a decoded
MPEG data stream (FIG.1 "102").

Claims 2, 20-29 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto, U.S. Patent 5,912,710, 6/1999, 348/445 and further in view of Robert Schumann et al., U.S. Patent 6,078,328, 6/2000.

As per dependent claims 2 and 21, Fujimoto discloses a controller (FIG. 8 "122") providing data to the video and graphics scalars (FIG. 8) and allocating memory to the first and second blocks of memory, but fails to specifically disclose allocating memory based upon memory needs of the data stream. Schumann teaches allocating memory based upon needs of the data stream (col. 6, ll. 45-55). Fujimoto teaches providing video and graphics data to a system that performs an operation on the data as defined by the application program and outputs the data for display (Fig. 1). Schumann teaches an application program controlling the transmission and processing of video and graphics data from secondary storage as well as reclaiming and allocating memory based on data requirements (col. 4-6). It would have been obvious to one of skill in the art to include memory allocation based upon need in the disclosure of Fujimoto because memory allocation prevents the application from running out of memory and enables optimal performance from limited system resources.

As per independent claim 20, Fujimoto discloses allocating a first block of memory for storing the video data stream (FIG. 1 '100B'), allocating a second block of memory for storing the graphics data stream (FIG. 1 '100G'), a method (abstract) operable in the device of claim 1, but fails to specifically disclose allocating memory

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based upon memory needs of the data stream. Schumann teaches allocating memory based upon needs of the data stream (col. 6, ll. 45-55). Fujimoto teaches providing video and graphics data to a system that performs an operation on the data as defined by the application program and outputs the data for display (Fig. 1). Schumann teaches an application program controlling the transmission and processing of video and graphics data from secondary storage as well as reclaiming and allocating memory based on data requirements (col. 4-6). It would have been obvious to one of skill in the art to include memory allocation based upon need in the disclosure of Fujimoto because memory allocation prevents the application from running out of memory and enables optimal performance from limited system resources. The rationale applied in the rejection of independent claim 4 applies herein.

As per dependent claim 22, Fujimoto discloses the merging block receiving control data used to produce the video graphics output (FIG. 8 "201 & 203"), as does Schumann (col. 5, ll. 40-60).

As per dependent claim 23, Fujimoto discloses a digital to analog converter for the video graphics (col. 10, ll. 35 et seq.), as does Schumann (col. 4, ll. 35-40).

As per dependent claim 24, Fujimoto discloses a video flicker removal block. The rejection as applied to claim 25 is included herein.

As per dependent claim 25, Fujimoto discloses a graphics flicker removal block (FIG. 16 "203"; col. 14, ll. 56 et seq.). It would have been obvious to one of skill to use the teachings of Fujimoto because he teaches a filter having a delay circuit (col. 16, ll. 56 et seq.) and selectable characteristics (col. 16, ll. 19 et seq.) and processing multiple scan lines, which implies an averaging technique (FIG. 11) that is known to reduce flicker. Schumann also discloses scan line processing (col. 8-10).

As per dependent claim 26, Fujimoto discloses scaling the video based on a first format and a plurality of selected formats (FIG. 1 "107"; col. 6, ll. 45-48, 54-58), which Schumann fails to disclose. It would have been obvious to combine the disclosures because Fujimoto teaches a user inputting the scale parameters and Schumann teaches a user inputting data editing parameters that affect the final image display. Including scaling of video to selected formats allows display customization.

As per dependent claim 27, Fujimoto discloses scaling the graphics based on a first format and a plurality of selected formats (FIG. 1 "106"; col. 6, ll. 45-48, 54-58), which Schumann fails to disclose. It would have been obvious to combine the disclosures because Fujimoto teaches a user inputting the scale parameters and Schumann teaches a user inputting data editing parameters that affect the final image display. Including scaling of graphics to selected formats allows display customization.

As per dependent claim 28, Fujimoto discloses a video decompression block (FIG. 1 "102"), as does Schumann (col. 5, ll. 35-40).

As per dependent claim 29, Fujimoto discloses a graphics decompression block (FIGS. 1 & 17; col. 15, ll. 10 et seq.), as does Schumann (col. 5, ll. 35-40).

As per independent claim 30, Fujimoto discloses a circuit (FIG.S. 1, 8 & 9) for implementing the method of claim 20. Therefore the rationale as applied in the rejection of independent claim 20 applies herein.

As per independent claim 38, Fujimoto discloses a system (Fig. 1) having memory maintaining video having a first format and graphics data having a second format (Fig. 1 "100"), but fails to disclose the memory allocated to the video and the graphics based on the needs of each. Schumann teaches allocating memory based upon needs of the data stream (col. 6, ll. 45-55). Fujimoto teaches providing video and graphics data to a system that performs an operation on the data as defined by the application program and outputs the data for display (Fig. 1). Schumann teaches an application program controlling the transmission and processing of video and graphics data from secondary storage as well as reclaiming and allocating memory based on data requirements (col. 4-6). It would have been obvious to one of skill in the art to include memory allocation based upon need in the disclosure of Fujimoto because

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memory allocation prevents the application from running out of memory and enables optimal performance from limited system resources. The rationale as applied to independent claim 20 applies herein.

Allowable Subject Matter

1. Claims 31-37 are allowed.

Response to Arguments

1. Applicant's arguments filed 9/25/02 have been fully considered but they are not persuasive.

With respect to claims 2-19, Applicant argues that Fujimoto does not disclose a single memory having first and second memory blocks for storing graphics and video data respectively, and the single memory coupled to the graphics and video scalers respectively.

Fujimoto discloses reading data from a DVD medium, which stores video and graphics data in respective memory space. Fujimoto discloses separate memory blocks, which separately transmits graphic data to VRAM and video data to a decoding block. Each of the decoding and memory blocks is coupled to a graphic/video mixer block that includes independent video and graphics scalers. Thus, Fujimoto discloses the DVD medium operably coupled to a system, which provides merged and scaled output to a display system (Fig. 1).

With respect to claims 20-29, Applicant argues that Fujimoto fails to allocate memory to either of the graphics and video streams based upon need.

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Examiner agrees that Fujimoto fails to disclose this claim feature. Thus, the rejection of the above claims has been modified in view of prior art teachings as disclosed by Schumann.

With respect to claim 30 Applicant argues that Fujimoto fails to disclose a frame buffer for storing video data and coupled to a video scaler.

Applicant's claim 30 fails to claim a frame buffer for storing video data. Additionally, Fujimoto teaches VRAM (i.e. frame buffer) coupled to the video scaler (Fig. 8).

With respect to claims 31-37, Applicant's arguments are moot. Claims 31-37 have been allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Chante Harrison** whose telephone number is **(703) 305-3937**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

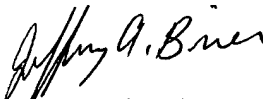
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ceh

December 13, 2002


JEFFERY BRIER
PRIMARY EXAMINER